UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/668,642 | 09/23/2003 | Dale A. Harrison | METR:003 | 2046 |

7590 10/12/2005

O'KEEFE, EGAN & PETERMAN, L.L.P.
Building C, Suite 200
1101 Capital of Texas Highway South
Austin, TX 78746

| EXAMINER | |
|---|---|
| HANNAHER, CONSTANTINE | |
| **ART UNIT** | **PAPER NUMBER** |
| 2878 | |

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) |
|---|---|---|
| | 10/668,642 | HARRISON, DALE A. |
| | Examiner | Art Unit |
| | Constantine Hannaher | 2878 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *submissions of 28 Oct 2004 & 01 Nov 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-72* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-15,20,21,33,34,37-42,44-47,49,50 and 63-65* is/are rejected.

7)☒ Claim(s) *3-6,16-19,22-32,35,36,43,48,51-62 and 66-72* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 November 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *multiple (3)*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### Information Disclosure Statement

1. As set forth in MPEP § 609:

> 37 CFR 1.98(b) requires that each item of information in an IDS be identified properly. U.S. patents must be identified by the inventor, patent number, and issue date. U.S. patent application publications must be identified by the applicant, patent application publication number, and publication date. U.S. applications must be identified by the inventor, the eight digit application number (the two digit series code and the six digit serial number), and the filing date. If a U.S. application being listed in an IDS has been issued as a patent, the applicant should list the patent in the IDS instead of the application. Each foreign patent or published foreign patent application must be identified by the country or patent office which issued the patent or published the application, an appropriate document number, and the publication date indicated on the patent or published application. Each publication must be identified by publisher, author (if any), title, relevant pages of the publication, date and place of publication. The date of publication supplied must include at least the month and year of publication, except that the year of publication (without the month) will be accepted if the applicant points out in the information disclosure statement that the year of publication is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the particular month of publication is not in issue. The place of publication refers to the name of the journal, magazine, or other publication in which the information being submitted was published.

2. Where the IDS citations are submitted but not described, the examiner is only responsible for cursorily reviewing the references. The initials of the examiner on the PTO-1449 indicate only that degree of review unless the reference is either applied against the claims, or discussed by the examiner as pertinent art of interest, in a subsequent office action. See Guidelines for Reexamination of Cases in View of *In re Portola Packaging, Inc.*, 110 F.3d 786, 42 USPQ2d 1295 (Fed. Cir. 1997), 64 FR at 15347, 1223 Off. Gaz. Pat. Office at 125 (response to comment 6). Consideration by the examiner of the information submitted in an IDS means that the examiner will consider the documents in the same manner as other documents in Office search files are considered by the examiner while conducting a search of the prior art in a proper field of search. The initials of the

examiner placed adjacent to the citations on the PTO-1449 or PTO/SB/08A and 08B or its equivalent mean that the information has been considered by the examiner to the extent noted above. MPEP § 609 (Eighth Edition, August 2001).

**Oath/Declaration**

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It is not plainly and legibly written either by a typewriter or machine printer in permanent dark ink or its equivalent, as required under 37 CFR 1.52(a)(1)(iv).

4. When applicant states that the post office address is the "same" as residence applicant's representative should keep in mind that a "residence" is a city and state or foreign country. The superfluous information given for residence is accepted as constituting a mailing address. The Office has been able to discern the city and state or foreign country of residence from the information supplied. See the requirements of 37 CFR 1.63(c)(1) as amended effective November 7, 2000.

**Drawings**

5. The drawings are objected to because the symbol for the unit ångström is set forth as "A". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and

appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

**Specification**

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

7. The disclosure is objected to because of the following informalities: paragraph [0001], missing application numbers; paragraph [0119], a superscript zero is used instead of the degree symbol for angle.

Appropriate correction is required.

8. Section 608.01 of the MPEP states in part:

> In order to minimize the necessity in the future for converting dimensions... to the metric system of measurements when using printed patents... all patent applicants should use the metric (S.I.) units followed by the equivalent English units when describing their inventions....

The Assistant Secretary and Commissioner of Patents and Trademark strongly reiterated and emphasized strong encouragement for patent applicants to use the metric system in patent applications in a message appearing at 1135 O.G. 55 dated February 18, 1992. At some future time, the USPTO will consider making it a requirement.

Note the use of the ångström and the micron. The Examiner is unable to require the use of SI units.

**Claim Objections**

9. Claim 8 is objected to because of the following informalities: no concluding period.

Appropriate correction is required.

**Claim Rejections - 35 USC § 112**

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Whether a reflectometer is "compact" or facilitates "integration" with unspecified process tools or obtains an advantage are aspects upon which no two people need agree. Accordingly, the scope of such a claim is indefinite since one skilled in the art has no guidance as to whether or not a particular reflectometer is within its scope or not.

As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 USC 103 [now 35 USC 103(a)] should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims. See MPEP § 2173.06. Because the scope of claim 21 cannot be reliably ascertained, no further action on the merits will be made as to this claim.

**Claim Rejections - 35 USC § 102**

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 49, 50, 63, and 64 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Chalmers *et al.* (US20020030826A1).

With respect to independent claim 49, Chalmers *et al.* discloses an optical reflectometer (Fig. **6A**) for obtaining reflectance data (paragraph [0063]) from a two-dimensional sample area **500** comprising a light source **610** for providing a light beam, a plurality of optical elements **612, 614** configured to direct the light beam to and from a two-dimensional sample area **500**, a spectrometer **622** that receives the light beam and provides multiple spatially separated wavelengths of light **644** at an exit of the spectrometer (Fig. **6B**), and an array detector **624** that receives the multiple spatially separated wavelengths of light **644** to enable reflectance data to be simultaneously obtained for multiple sites within the two-dimensional sample area **500** (paragraphs [0055], [0059], [0063], [0065]).

With respect to dependent claim 50, at least one of the optical elements **618** is a reflective optic.

With respect to independent claim 63, Chalmers *et al.* discloses a method of analyzing the reflectance characteristics of a sample (paragraph [0063]) using the illustrated optical reflectometer (Fig. **6A**) which would comprise the steps of providing at least one light beam (from source **610**), directing the light beam on a two-dimensional area of the sample **500** (through optical element **612**), receiving at least a portion of the light beam within an imaging spectrometer **622** after the light beam has been reflected from the sample **500**, providing multiple spatially separated wavelengths of light **644** at an exit plane of the spectrometer (Fig. **6B**), and receiving the multiple spatially separated wavelengths of light **644** with a two-dimensional array detector **624** in order to allow reflectance data to be simultaneously obtained for multiple sites within the two-dimensional area of the sample **500** (paragraphs [0055], [0059], [0063], [0065]).

With respect to dependent claim 64, the reflectance data in the method of Chalmers *et al.* includes data as recited in view of the multiple sites along the pattern **634** and the range of wavelengths **644** separated by the spectrometer.

**Claim Rejections - 35 USC § 103**

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1, 2, 7-15, 20, 33, 34, 37-42, and 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubloff (1977) in view of Nikoonahad *et al.* (US20040150820A1).

With respect to independent claim 1, Rubloff discloses a reflectometer (Fig.) which operates in the recited range (VUV is below DUV) and comprises a light source (behind exit slit) to create at least one light beam, at least one environmentally controlled chamber (mirror box at reduced pressure) in which the light beam travels, and a detector (photomultiplier) that receives the light beam and detects data for wavelengths in the recited range. Although the reflectometer of Rubloff places the spectrometer in the light source (monochromator), Nikoonahad *et al.* shows (Fig. **3**) that it is known in the art of a reflectometer **100** which operates in the recited range (VUV) to comprise a light source **32** to create a beam **34**, a spectrometer **58** to receive at least a portion of the light beam **112** (reflected from sample area **42***a*) and provide at least a portion of the light beam as a spectrometer output, and a detector that receives the spectrometer output (paragraph [0044]). In view of the flexibility of a very broadband measurement afforded by the source **32** and the spectrometer **58** as suggested by Nikoonahad *et al.* (paragraph [0043]) it would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify the reflectometer of Rubloff to replace the VUV monochromator with a broadband light source and replace the photomultiplier with a spectrometer as suggested by Nikoonahad *et al.* The detector of Rubloff is not a point detector. Nikoonahad *et al.* suggests the use of an array detector to accommodate changes in the incidence angle in the reflectometer (paragraph [0051]). In view of the improved performance as suggested by Nikoonahad *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the suggestion of spectrometer **58** in Fig. **3** with an array detector.

With respect to dependent claim 2, the light source **32** of Nikoonahad *et al.* is broadband and the light source of Rubloff is narrow band. Both suggestions operate in the recited (VUV) range.

With respect to dependent claim 7, the reflectometer of Nikoonahad *et al.* includes an environmentally controlled chamber which is purged with a gas of the recited type (paragraph [0032]). In view of the improved transmission of the vacuum ultraviolet wavelengths as suggested by Nikoonahad *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the reflectometer of Rubloff to purge the at least one environmentally controlled chamber disclosed therein with a substantially non-absorbing gas.

With respect to dependent claim 8, Nikoonahad *et al.* identifies one or more of the recited gases (paragraph [0032]).

With respect to dependent claim 9, at least one of the environmentally controlled chambers disclosed by Rubloff may be considered to be evacuated in view of the ultra high vacuum.

With respect to dependent claim 10, the reflectometer disclosed by Rubloff further comprises at least two environmentally controlled chambers coupled via at least one optical coupling mechanism (window) between them.

With respect to dependent claim 11, the coupling in the reflectometer of Rubloff is an optical window fabricated as recited.

With respect to dependent claim 12, the VUV transmissive material in the reflectometer of Rubloff is at least one from the recited materials.

With respect to dependent claim 13, the reflectometer of Nikoonahad *et al.* includes an environmentally controlled chamber which is purged with a gas of the recited type (paragraph [0032]). In view of the improved transmission of the vacuum ultraviolet wavelengths as suggested by Nikoonahad *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the reflectometer of Rubloff to purge at least one of the environmentally controlled chambers disclosed therein with a substantially non-absorbing gas.

With respect to dependent claim 14, Nikoonahad *et al.* identifies one or more of the recited gases (paragraph [0032]).

With respect to dependent claim 15, at least one of the environmentally controlled chambers disclosed by Rubloff may be considered to be evacuated in view of the ultra high vacuum.

With respect to dependent claim 20, Nikoonahad *et al.* discloses spatial filter **108** which modifies the spatial property of the beam from the light source **32**.

With respect to independent claim 33, Rubloff discloses a reflectometer (Fig.) which operates in the recited range (VUV is below DUV) and comprises a light source (behind exit slit), a plurality of environmentally controlled chambers (mirror box at reduced pressure and UHV system at reduced pressure) in which the light beam travels, at least one of the chambers (UHV system) being a sample chamber configured to hold a sample ("sample") from which reflectance data is desired to be collected, and a detector (photomultiplier) that receives the light beam and detects data for wavelengths in the recited range. Although the reflectometer of Rubloff places the spectrometer

in the light source (monochromator), Nikoonahad *et al.* shows (Fig. **3**) that it is known in the art of a reflectometer **100** which operates in the recited range (VUV) to comprise a light source **32** to create a beam **34**, a spectrometer **58** to receive at least a portion of the light beam **112** (reflected from sample area **42***a*) and provide at least a portion of the light beam as a spectrometer output, and a detector that receives the spectrometer output (paragraph [0044]). In view of the flexibility of a very broadband measurement afforded by the source **32** and the spectrometer **58** as suggested by Nikoonahad *et al.* (paragraph [0043]) it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the reflectometer of Rubloff to replace the VUV monochromator with a broadband light source and replace the photomultiplier with a spectrometer as suggested by Nikoonahad *et al.*

With respect to dependent claim 34, the detector of Rubloff is not a point detector. Nikoonahad *et al.* suggests the use of an array detector to accommodate changes in the incidence angle in the reflectometer (paragraph [0051]). In view of the improved performance as suggested by Nikoonahad *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the suggestion of spectrometer **58** in Fig. **3** with an array detector.

With respect to dependent claim 37, the light beam in the reflectometer of Rubloff is non-polarized. The polarizers **106**, **120** in the reflectometer of Nikoonahad *et al.* are optional (paragraph [0045]). Accordingly, the light beam suggested by the combination of references is non-polarized.

With respect to dependent claim 38, the reflectometer of Nikoonahad *et al.* includes an environmentally controlled chamber which is purged with a gas of the recited type (paragraph [0032]). In view of the improved transmission of the vacuum ultraviolet wavelengths as suggested by Nikoonahad *et al.*, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the reflectometer of Rubloff to purge at least one of the plurality of environmentally controlled chambers disclosed therein with a substantially non-absorbing gas.

With respect to dependent claim 39, Nikoonahad *et al.* identifies one or more of the recited gases (paragraph [0032]).

With respect to dependent claim 40, at least one of the plurality of environmentally controlled chambers disclosed by Rubloff may be considered to be evacuated in view of the ultra high vacuum.

With respect to dependent claim 41, the reflectometer disclosed by Rubloff further comprises at least one optical coupling mechanism (window) between two of the plurality of environmentally controlled chambers.

With respect to independent claim 42, Rubloff suggests a method of collecting reflectance data from a sample using the illustrated reflectometer (Fig.) which operates in the recited range (VUV is below DUV) which would comprise the steps of creating light wavelengths in the recited range (behind exit slit) to create at least one light beam, transmitting the light beam in at least one environmentally controlled chamber (mirror box at reduced pressure), controlling the environment within the at least one environmentally controlled chamber (maintaining the reduced pressure), directing the light beam on a sample ("sample"), receiving the light beam with a detector (photomultiplier) and detecting data for wavelengths in the recited range. Although the reflectometer of Rubloff places the spectrometer in the light source (monochromator), Nikoonahad *et al.* shows (Fig. **3**) that it is known in the art of a reflectometer **100** which operates in the recited range (VUV) to comprise a light source **32** to create a beam **34**, a spectrometer **58** to receive at least a portion of the light beam **112** (reflected from sample area **42***a*) and provide at least a portion of the light beam as a spectrometer output, and a detector that receives the spectrometer output (paragraph

[0044]). In view of the flexibility of a very broadband measurement afforded by the source **32** and the spectrometer **58** as suggested by Nikoonahad *et al.* (paragraph [0043]) it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method suggested by Rubloff to replace the VUV monochromator with a broadband light source and replace the photomultiplier with a spectrometer as suggested by Nikoonahad *et al.* such that the method would comprise the steps of receiving at least a portion of the light beam within a spectrometer after reflection from the sample and providing multiple spatially separated wavelengths of light at an exit plane. The detector of Rubloff is not a point detector. Nikoonahad *et al.* suggests the use of an array detector to accommodate changes in the incidence angle in the reflectometer (paragraph [0051]). In view of the improved performance as suggested by Nikoonahad *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the suggestion of spectrometer **58** in Fig. **3** with an array detector such that the method would comprise the step of receiving the multiple spatially separated wavelengths of light with an array detector.

With respect to dependent claim 44, the light beam in the method of Rubloff is non-polarized. The polarizers **106, 120** in the method of Nikoonahad *et al.* are optional (paragraph [0045]). Accordingly, the light beam suggested by the combination of references is non-polarized.

With respect to dependent claim 45, the method suggested by Rubloff further comprises transmitting the light beam through a plurality of environmentally controlled chambers.

With respect to dependent claim 46, at least one of the environmentally controlled chambers in the method of Rubloff is a sample chamber (UHV system).

With respect to dependent claim 47, one of the environmentally controlled chambers in the method of Rubloff is an instrument chamber (mirror box), and the sample chamber and the

instrument chamber are coupled with an optical coupling mechanism (window) through which the light beam passes.

16. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chalmers *et al.* (US20020030826A1) in view of Nikoonahad *et al.* (US 20040150820A1).

With respect to dependent claim 65, the method of Chalmers *et al.* has no specific provision for obtaining the reflectance data from a desired two-dimensional area of the sample **500**. Nikoonahad *et al.* shows that in a method of analyzing the reflectance characteristics of a sample **42** utilizing a reflectometer **100** (Fig. **3**) it is known to perform pattern recognition with a camera **124** so that the reflectance data is obtained from a desired area **42a** of the sample **42** (paragraph [0046]). In view of the improved selectivity of obtaining reflectance data as suggested by Nikoonahad *et al.*, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Chalmers *et al.* such that it comprised a further step of performing pattern recognition with a camera.

**Response to Submission(s)**

17. The amendment filed October 28, 2004 has been entered.

18. This application has been published as US2005/0001172A1 on January 6, 2005.

**Allowable Subject Matter**

19. Claims 3-6, 16-19, 22-32, 35, 36, 43, 48, 51-62, and 66-72 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

20. Claim 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

21. The following is a statement of reasons for the indication of allowable subject matter: with respect to dependent claims 3-6, in combination with the other recited elements, a specific type of light source (while presumed to be well-known *per se*) is not motivated; with respect to dependent claims 16-19, in combination with the other recited elements, a controllable vacuum gate valve (while presumed to be well-known *per se*) is not motivated; with respect to dependent claim 21, a specific size criterion is not motivated; with respect to dependent claims 22-32, 35, 43, 48, 51-62, and 66-72, although reflectance measurements are simultaneously performed on multiple sites in Chalmers *et al.*, the suggestion to modify a VUV reflectometer to so perform is not motivated; with respect to dependent claim 36, in combination with the other recited elements, a specific type of spectrometer (while presumed to be well-known *per se*) is not motivated.

**Conclusion**

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (571) 272-2437. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov/. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ch

Constantine Hannaher
Primary Examiner